



AP/ 2833
JW

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : Kenneth L. Justice
For : CABLE CONNECTOR FOR WELDER OR
WIRE FEEDER
Serial No. : 10/619,764
Filing Date : July 15, 2003
Examiner : Ross N. Gushi
Group Art Unit : 2833
Our Docket No. : LEE 2 00309

REPLY BRIEF

Commissioner for Patents
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Adeline Machado
(SIGNATURE)

Dear Sir:

Appellant files this Reply Brief in response to the Examiner's Answer mailed on May 4, 2005. The examiner did not object to any statements or representations by Appellant regarding 1) Real Party in Interest, Related Appeals and Interferences, Status of the Claims, Status of Amendments, Summary of the Invention, The Issues, Grouping of Claims, and Prior Art Relied Upon. The Grounds for Rejection set forth in the Examiner's Answer appears to be identical to the grounds for rejection set forth in the Final Office Action mailed November 30, 2004. As such, Appellant's comments in this Reply Brief will be limited to the Response to Argument set forth by the examiner on pages 6-10 of the Examiner's Answer.

I. NON-ANALOGOUS ART

A. Ellis '386

The examiner asserted that Ellis '386 was analogous art since the patent is in the field of Applicant's endeavor. Specifically, the examiner stated that Ellis '386 was directed to an electrical connector with threaded locking rings. As such, it is the examiner's position that any patent disclosing an electrical connector with threaded locking rings is analogous art to Appellant's invention. Appellant reasserts that the examiner's characterization of analogous art is overly broad.

The present invention is limited to a welder cable coupler that is positioned on a welder housing or wire feeder. The welder cable coupler is designed to conveniently connect a welder cable to the welding housing or wire feeder. Due to the special configuration of welder cables and the devices that the welder cable are to be connected to, namely a welding housing or wire feeder, special types of cable couplers have been developed and have been used in the industry for many years. Large currents and high voltage levels are transmitted through the welding cable in order to form and maintain a welding arc during a welding procedure. As such, Appellant has maintained throughout the prosecution of the present invention that analogous art is directed to 1) prior art cable couplers for welders and/or welder wire feeders such as the one disclosed in Appellant's patent application and 2) cable couplers used to connect cables that transmit high currents and high voltages.

Appellant has previously cited the test for determining whether a cited reference is analogous art. This test requires that 1) the reference must be in the field of the Appellant's endeavor, or 2) the reference must be reasonably pertinent to the particular problem with which Appellant is concerned. *In re Oetiker*, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). The test also requires that the examiner consider the reality of the circumstances –use common sense– when deciding which fields a person

of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor. *Oetiker*, 24 USPQ2d at 1446.

Appellant maintains that the examiner has ignored the specific problem being addressed by Appellant's claimed invention, and has instead selected various patents directed to different types of electrical connectors that are unrelated to welder cables or to couplers for cables that transmit high currents and voltages.

Ellis '386 is directed to a sealed quick disconnect RF connector to connect hardline coaxial cable that is used with cable television. This technology has nothing to do with welder cable couplers.

The examiner indicated that Ellis '386 disclosed that the RF cable connection previously took several minutes. Appellant's submit that there is no such disclosure on page 1, line 21 or in any other section of the patent. Ellis '386 merely is directed to an insulated connection for cable television. These types of connections typically do not take several minutes to connect or disconnect.

Not only is the type and configuration of RF connector of Ellis '386 different from the cable coupler defined in the claims of the present invention as previously set forth in detail in Appellant's Appeal Brief, Appellant's submit that one skilled in the art of welding would not consider using the RF connector design of Ellis '386 for use on any type of welder cable coupler. As is well known in the art, the signal for an RF cable is transmitted by a wire which is surrounded by an insulating material such as a plastic or a wax material. Positioned about the insulating material is a shielding material typically formed of a foil material. Positioned about the shielding material are strands of metal wire that are also used to assist in the transmission of the signal through the cable. A plastic coating is then applied about the metal strands to protect the components of the RF cable. As shown

in Ellis '386, the transmitting wire is insulated from the user by the connector; however, the outer portion of the connector functions as an electrical connector for the metal strands. As such, if a similar connector arrangement was used to connect the high current and high voltage couplers used in a welder cable, safety issues may arise. As illustrated in all the figures of the present invention, all the electrical contacts are isolated from a user once the welder cable is connected to a welder or wire feeder. This configuration is an additional difference of the RF connector shown and described in Ellis '386 from the cable coupler defined in the claims of the present invention.

The examiner also asserted that Appellant's invention "has nothing to do with welding per se". (Page 7 - Examiner's Answer). Appellant disagrees. The title of Appellant's invention, the background discussion, the summary and the detailed description of the invention are all directed to a cable coupler for welders or wire feeders. Furthermore, all the pending claims are limited to a welder cable coupler and method for using a welder cable coupler. As such, Appellant is not sure of the basis of the examiner's argument. If the examiner is of the opinion that the pending claims are directed to any type of electric coupler that includes locking rings, this erroneous position may explain in part why the examiner continues to assert non-analogous art against the pending claims.

The examiner's response to Appellant's patent classification argument is based on the examiner's unduly broad definition of the relevant art. The examiner, as set forth above, improperly classified the relevant art as all electric connectors that include locking rings. Based on this erroneous designation by the examiner, the examiner argues that Ellis '386 falls within the class of relevant art. This circular argument by the examiner cannot be used to justify the citation of Ellis '386 against the pending claims of the present invention.

The examiner also asserted that Ellis '386 was not being used for its teachings associated with RF cable, but was only being used for its teachings associated with threaded locking rings. This

assertion by the examiner is contrary to the requirement that examiner consider the reality of the circumstances when deciding which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor. *Oetiker*, 24 USPQ2d at 1446. Ellis '386 is specifically directed to RF cable. There is nothing in Ellis '386 that would indicate that such RF connector technology could be used for other types of cables. Indeed, the RF connector is specifically designed to be used with a certain type of cable and to solve an insulating problem that is unique to RF cable. The examiner's disregard of the teachings of Ellis '386 appears to also explain in part why the examiner continues to assert non-analogous art against the pending claims.

Appellant maintains that Ellis '386 is non-analogous art, thus cannot be properly used to support a rejection of any claims under 35 U.S.C. §103.

B. Liao '259, Chow '034 & Haag '076

The examiner grouped Liao '259, Chow '034 and Haag '076 together regarding the non-analogous assertion by Appellant. The examiner stated that Liao '259, Chow '034 and Haag '076 are all cited for 1) teaching gripping nodes and 2) teaching that gripping nodes are well known in the art.

As is discussed in detail in Appellant's Appeal Brief, these connectors have a different configuration and are designed for a different use from the welder cable connector defined in the claims. In addition, as discussed in detail in Appellant's Appeal Brief and also discussed briefly below, none of the references of record disclose a star-shaped gripping node configuration. If the examiner is citing Liao '259, Chow '034 and Haag '076 only for the teaching of gripping nodes, Appellant admitted in the background of the inventions that prior art cable connectors included gripping nodes or ring. (See Figure 1 - 122). As such, Liao '259, Chow '034 and Haag '076 are merely cumulative art at best. Irrespective of this fact, none of these patents are directed to cable

connectors on a welder or wire feeder that is used to connect a welder cable to the welder or wire feeder. As such, Appellants reassert that Liao '259, Chow '034 and Haag '076 are not analogous art, thus cannot be properly used to support a rejection of any claims under 35 U.S.C. §103.

C. Hermann '759 and Glover '526

The examiner asserted that Hermann '759 and Glover '526 were analogous art since these references also related to locking ring connectors. As set forth above, the examiner's selection of the criteria for analogous art is overly broad. The connectors disclosed in Hermann '759 and Glover '526 are significantly different from the welder cable coupler that is defined in the claims of the present invention for the reasons discussed in detail in Appellant's Appeal Brief. Appellant's submit that for reasons similar to the ones discussed above regarding Ellis '386, Hermann '759 and Glover '526 are non-analogous art, thus cannot be properly used to support a rejection of any claims under 35 U.S.C. §103.

II. PAGES 17-23 OF APPELLANT'S APPEAL BRIEF

The examiner stated that he was not sure of the reason for the content of pages 17-23 in Appellant's Appeal Brief. Pages 17-23 of Appellant's Appeal Brief are directed to the Sixth Issue on appeal, namely whether claims 1, 2, 7, 14, 16, 18, 19, 21 and 23 under 35 U.S.C. 103(a) are unpatentable over the APA in view of Ellis '386, Haag '076, Liao '259 and Chow '034.

On page 17, Appellant asserted that the APA in view of Ellis '386, Haag '076, Liao '259 and Chow '034 does not disclose, teach, or suggest a welder cable coupler that satisfies all the limitations of independent claims 1 and 21. Appellant also asserted on page 17 that the limitations in dependent claims 2, 7, 14, 16, 18, 19 and 23 are not taught, suggested, or disclosed in the APA in view of Ellis '386, Haag '076, Liao '259 and Chow '034.

The remainder of the content on page 17 and continuing on pages 18-20 sets forth the

applicable standard for rejecting claims under 35 U.S.C. §103. Starting at the end of page 20 and continuing on page 21, Appellant summarized the scope of pending claim 1. Starting on page 21 and continuing on pages 22-27, Appellant sets forth the errors by the examiner regarding the rejection of pending claim 1.

The examiner's characterization that all the information on pages 17-23 is "merely providing background information" is erroneous.

III. THE EXAMINER'S ANALYSIS OF ELLIS ' 386

The examiner asserted that Appellant cannot argue non-obviousness by attacking references individually. Appellant disagrees.

When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references. *In re Rouffet*, 149 F.3d 1350, 1355, 47 USPQ2d 1453 (Fed. Cir. 1998). Stated another way, the prior art as a whole must "suggest the desirability" of the combination. *In re Beattie*, 974 F.2d 1309, 1311, 24 USPQ2d 1040] (Fed. Cir. 1992) (internal quotation omitted); *Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340, 53 USPQ2d 1580 (Fed. Cir. 2000) ("Trade-offs often concern what is *feasible*, not what is, on balance, *desirable*. Motivation to combine requires the latter." (emphasis added)). In addition, when references are combined, such references can *only* be combined when the references include some suggestion or incentive to do so. *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). The Federal Circuit has repeatedly stated that "the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

Appellant analyzed each reference cited by the examiner to determine the teaching of each

reference. Appellant then determined if there were any teachings, suggestions or motivations based on the teachings of each reference to combine such references to support an obviousness rejection. Appellant does not challenge the examiner that the rejection of the claims is based on a combination of references. Appellant does, however, challenge the basis for combining such references to support an obvious rejection of the pending claims. The examiner cannot avoid stating the justification for combining different references together by merely arguing that such references are part of a very broad grouping of art that discloses locking rings in combination with electrical connectors and that such combination of prior art makes obvious the claimed invention. If such was the state of the law, the examiner could merely locate prior art that includes one or more features of the claimed invention and then conclude that this combination of prior art makes obvious the claimed invention. Indeed, Appellant asserts that this is the basis that the examiner is currently relying upon to justify the rejection of the pending claims.

Appellant maintains the connector disclosed in Ellis '386 is so structurally different from the welder cable coupler defined in the pending claims that one skilled in the art would not use the teachings from Ellis '386 in combination with any other reference of record to conceive the novel welder cable coupler configuration defined in the claims. Appellant submits that the examiner in the Final Office Action nor the Examiner's Answer ever set forth the basis for combining the teachings of Ellis '386 with other art of record.

As to the specific teachings in Ellis '386, the examiner asserted that Ellis '386 disclosed a joining cavity similar to the joining cavity defined in the claims. The examiner referred to Figure 7A and column 6 of Ellis '386 to establish that Ellis '386 discloses a joining cavity. The examiner's argument is a misunderstanding or a refusal to address Appellant's argument. Appellant never asserted that Ellis '386 does not disclose a joining cavity. Appellant instead argued that the joining

cavity was on the end of the RF cable, not the component to which the RF axis is to be joined. Appellant argued on page 24 of the Appeal Brief that this arrangement disclosed in Ellis '386 was opposite to that disclosed and defined in the claims of the present invention.

The examiner also argued that Appellant's advantage argument is unfounded. The examiner asserted that Ellis '386 "goes into great detail" about explaining the advantages of the connector. The examiner's comments miss the point of Appellant's arguments. Appellant has never challenged whether the specific connector disclosed in Ellis '386 provides an advantage to the user. Appellant challenged the examiner's assertion that it would have been obvious to increase the distance between the front stopping flange and the rear stop. Appellant argued that there was no disclosure from any of the cited art that such extension as proposed by the examiner would provide any advantage to the specific connector disclosed in Ellis '386. As such, Appellants challenged the examiner's assertion that one skilled in the art would be motivated to increase the distance between the front stopping flange and the rear stop as concluded by the examiner.

The examiner also comments on the "hindsight" assertion by Appellant. The examiner set forth a general statement about hindsight; however, the examiner did not address the argument raised by Appellant that other than hindsight, there is no disclosure, teaching or suggestion in the cited art to combine the references selected by the examiner to support a rejection of any of the pending claims. Merely citing principle of law does not address the arguments raised by Appellant regarding this matter. As stated above, "the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." *In re Dembiczak*, 175 F.3d at 999, 50 USPQ2d at 1617. Appellant submits that the examiner has not identified teachings from the relied upon references to establish that one skilled in the art would be motivated to combine the references

as done by the examiner so as to make obvious the claimed invention.

IV. THE EXAMINER'S ANALYSIS OF THE APA

The examiner, upon consideration of Appellant's Appeal Brief, withdrew the rejections to claims 18, 19, 20, 42 and 43. The examiner indicated that such claims would be allowable if written in independent form.

The examiner did not address any of Appellant's other arguments set forth in the Appeal Brief regarding the deficiencies of the APA with respect to the design of the gripping member on the coupling sleeve. Appellant assumes that the examiner had no disagreement with respect to the analysis of the APA set forth in the Appeal Brief.

V. THE EXAMINER'S ANALYSIS OF LIAO '259, CHOW '034 & HAAG '076

The Examiner's Answer did not comment on Haag '076, Liao '259 and Chow '034 in combination with the other cited art. Liao '259, Chow '034 and Haag '076 were only mentioned in the Examiner's Answer with respect to such references being analogous art. As set forth above, Appellant submits that such references are non-analogous art, thus cannot be properly used to support a rejection of any of the pending claims. With regard to Appellant's analysis of the teachings of Liao '259, Chow '034 and Haag '076, Appellant assumes that the examiner had no disagreement with respect to the analysis of such references in the Appeal Brief.

VI. THE EXAMINER'S ANALYSIS OF HERRMANN '759

The examiner stated that Herrmann '759 was relied upon for disclosing a receiving end of a joining cavity that has a beveled surface. Interestingly, Herrmann '759 does not describe any of the components of the connector as having a beveled surface. Appellant can only assume that the examiner is concluding that ring 56 has a beveled surface; however, there is no support for such conclusion in the specification of Herrmann '759. As such, Appellant submits that the examiner's

reliance on Herrmann '759 for the teaching of a beveled surface is misplaced.

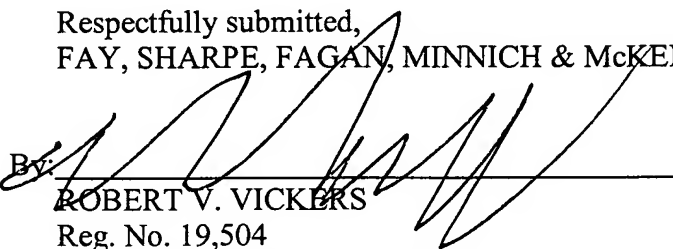
VII. THE EXAMINER'S ANALYSIS OF GLOVER '526

The examiner stated that Glover plainly discloses the length of the connection cavity as illustrated in Figure 2. Appellant agrees Glover '526 discloses a molded portion 7 that extends beyond the end of threaded cap 21. However, molded portion 7 is not a connection cavity that includes a plurality of connectors. Indeed, molded portion 7 can only correspond to an electrical connection as defined in the claims. As such, even if it is determined that a majority of molded portion 7 extends beyond threaded cap 21, a relationship that is not described in the specification of Glover '526, Glover '526 still is absent any teaching regarding a majority of a connection cavity which includes a plurality of electrical connectors that extends beyond the end of a joining cavity.

VIII. SUMMARY AND CONCLUSION

Appellant resubmits that the claims on appeal pertain to a novel welder cable coupler for a welder or wire feeder and method for using a novel welder cable coupler for a welder or wire feeder. The cited prior art references do not disclose, teach or suggest the claimed welder cable coupler and method for using the welder cable coupler. Appellant respectfully requests that the rejections to the claims on appeal be withdrawn and that such claims be indicated as allowable.

Respectfully submitted,
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